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10/687,471	10/15/2003	Lin Wang	006401.00417	8885
74456 7590 08/24/2009 FITCH, EVEN, TABIN & FLANNERY 120 SOUTH LASALLE STREET SUITE 1600 CHICAGO, IL 60603-3406			EXAMINER HUSON, MONICA ANNE	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/687,471  
Filing Date: October 15, 2003  
Appellant(s): WANG ET AL.

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Allen Hoover  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 18 May 2009 appealing from the Office action mailed 2 December 2008.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

09/863928 (Decision rendered 2 March 2009)

10/687498 (Appeal No. 2003-3246)

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

5,849,233	Altieri et al.	12-1998
5,455,342	Redding, Jr.	08-1995
4,076,846	Nakatsuka et al.	02-1978

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakatsuka et al. (U.S. Patent 4,076,846), in view of Redding, Jr. (U.S. Patent 5,455,342), further in view of Altieri (U.S. Patent 5,849,233). Regarding Claims 1, 4, 5, and 7 Nakatsuka et al., hereafter "Nakatsuka," show that it is known to have an extruded starch product made by the process comprising providing a hydroxyalkyl starch, said starch being derivatized with a hydroxyalkyl substituent having from 2 to 6 carbon atoms (Column 6, lines 60-62), said starch being a granular starch (Column 5, lines 33-51; Column 8, line 41); and extruding said starch in an extruder, said extruder having a barrel, a die, and at least one rotating shaft, said barrel having at least first and second zones, said first zone being upstream from said second zone, the conditions in the first zone being insufficient to gelatinize said starch to said gelatinization level and the conditions in said second zone being sufficient to gelatinize said starch to said gelatinization level, said starch being extruded in the presence of controlled moisture, said process including the step of controlling the rotational speed of said shaft to impart specific mechanical energy to said starch sufficient to result in a soluble extruded starch product that is capable of extrusion through said die at said rotational speed (Column 8, lines 9-17, 31-33, 49-53; Column 13, lines 31-40; Column 14, lines 5-12, 25-28; It is noted that gelatinization occurs about 150C-175C.). Note that it is being interpreted that since Nakatsuka does disclose that gelatinization is effected via his process (Column 6, lines 14-19), 100% gelatinization occurs while or after the molding material is in the second/third zone. Nakatsuka does not specifically disclose the particle size of his common starch. Redding, Jr. shows that it is known to carry out a method of molding starches wherein the starches have a particle size distribution such that at least 90% by

weight of the starch particles pass through an 80 mesh (180 micron) screen (Column 1, lines 19-23; It is being interpreted that since starch is "commonly found" at sizes from 5-25 microns, at least 90% by weight of starch would fall into the disclosed size of 5-25 microns.). Redding, Jr. and Nakatsuka are combinable because they are concerned with a similar technical field, namely, methods of molding starches. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to identify the size disclosed in Redding, Jr. as that of Nakatsuka's "common" starches in order to design molding processes that would accommodate specifically-sized granules. Nakatsuka does not specifically show barrel moisture levels. Altieri shows that it is known to carry out a method wherein the moisture in the barrel does not exceed 25% by weight of said starch (Column 1, lines 56-58). Altieri and Nakatsuka are combinable because they are concerned with a similar technical field, namely, methods of molding starches. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Altieri's specific barrel moisture teachings during Nakatsuka's molding process in order to most accurately form a product that accommodates exclusive end-use specifications.

Regarding Claims 2, 3 and 6, Nakatsuka shows the product as claimed as discussed in the rejection of Claim 1 above, including a method wherein said starch product is dried to a moisture content between about 9% and about 12% (Column 13, line 9), meeting applicant's claim.

#### **(10) Response to Argument**

Applicant contends that the instant claims should be allowable due to the BPAI Decision rendered in 09/863928. As noted in the Advisory Action of the instant application mailed 16 March 2009, the instant application contains product-by-process claims which are considered differently from the method claims in 09/863928. Therefore, the Decision referenced above does not necessarily apply to the product-by-process claims of the instant application.

Applicant contends that Nakatsuka does not show a gelatinized starch product. This is not persuasive because Nakatsuka teaches a gelatinized starch product at Column 3, lines 46-68, and Column 6, lines 4-33, especially lines 9-20 ("in order to enhance the performance characteristics of the high-amylose starch, gelatinization is effected...during the course of manufacturing"). Applicant contends that Nakatsuka does not specify the nature of the product as a starch product. This is not persuasive because it is held that an x, y, and z product is an article which contains x, y, and z ingredients. It follows that since Nakatsuka teaches starch as an ingredient, i.e. starting material, in his product, his product can be termed a starch product, whether or not he specifically identifies his product as a starch product. For purposes of illustration, a cake is an egg product, but in the process of manufacturing the cake, the egg transforms and is no longer recognizable as the egg that was cracked into the mixing bowl. This does not mean that a cake is not an egg product, just because the egg yolk is not still intact within a finished cake.

Applicant contends that Nakatsuka does not show a starch product that is substantially soluble in water at 25C. This is not persuasive because, using extrapolation between solubility at 20C and 30C, it is maintained that Nakatsuka suggests that his product, which comprises the claimed hydroxyalkyl starch, is substantially completely soluble at 25C (See Column 13, lines 18-25; Column 18, lines 1-3). Applicant contends that Table 2 does not specify the extent of solubility. While this may be true, the data in Table 2 is for time for water solubility. As Nakatsuka has not qualified his water solubility amount, it is immediately envisaged that this time for water solubility is for 100% water solubility. Otherwise, the data would have been useless to Nakatsuka's patent if the extent of solubility that is achieved in the recorded time is not fixed. Similarly, Nakatsuka's teaching that the product has "excellent...solubility in cold water" (Column 18, lines 1-3) easily suggests that the product is substantially completely soluble in water at 25C. It is noted that the range of values covered by applicant's "substantially completely soluble" could feasibly include any solubility extent above 50%. It is submitted that "excellent...solubility" would indicate solubility of more than 50%.

Applicant contends that Nakatsuka does not suggest the instant claims because he does not show extruding in an extruder having two zones. This is not persuasive because the instant claims are product-by-process claims where the determination of patentability is based on the product itself; the patentability of the product does not depend on its method of production (MPEP 2113). Therefore, how the product is formed is not given weight during examination of product-by-process claims. It is maintained that Nakatsuka shows a gelatinized starch product as claimed, especially at Column 6, lines 14-33.

Applicant contends that Redding, Jr. and Nakatsuka are not properly combined. This argument has already been made and responded to in the Final Rejection mailed 2 December, but the examiner's response is repeated here for convenience: *"Applicant contends that Nakatsuka is only concerned with a heavily-modified starch, 'perhaps to the extent of the loss of the starch structure' (see Response, page 4). This is not persuasive because the examiner cannot find any exclusive support for this assertion in Nakatsuka. The examiner maintains her interpretation that Nakatsuka produces a starch article (whether or not it is a protein-starch combination), in particular because Nakatsuka claims a molded article comprising a starch material in claim 20. Further, although Nakatsuka combines a starch material with a protein material, the examiner does not necessarily agree with applicant that Nakatsuka's starch is heavily-modified (i.e. chemically modified). In fact, Nakatsuka, like Redding, also teaches that chemical modification of a starch material is undesirable (See Nakatsuka, Column 2, lines 31-33). Therefore, it is maintained that the disclosures of Nakatsuka and Redding would be properly combinable to suggest the instant invention."* Note that the "Response" referenced in this quotation is the document filed by applicant 15 August 2008.

Specifically regarding claim 4, applicant initially discusses barrel moisture content. Claim 4 does not discuss moisture content, so it is unclear why moisture content would be argued with respect to claim 4. Applicant goes on to argue that Altieri does not properly combine with Nakatsuka to suggest claim 4 because he does not show the claimed particle size recited in claim 4. This is not persuasive because Altieri

was not cited to show this feature; Redding, Jr. suggests this claimed feature, as discussed in lines 2-13 of page 3 of the Final Rejection. Altieri was cited to suggest the claimed barrel moisture levels, as discussed in lines 13-20 of page 3 of the Final Rejection, but this feature is not specifically required in dependent claim 4.

**(11) Related Proceeding(s) Appendix**

Copies of the court or Board decision(s) identified in the Related Appeals and Interferences section of this examiner's answer are provided in Appellant's "Related Proceedings Appendix".

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Monica A Huson/

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